

REMARKS

The indication of the allowability of Claims 4 and 5 is noted with appreciation. In this connection, the objection to Claim 4, line 17 has been addressed.

The rejection of Claims 3 and 4 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. Reconsideration is requested in light of the following comments.

Claim 3 has been amended to correspond in significant part to a granted claim in the corresponding European Patent 1 606 668. The amendment more clearly reflect what the distinction is between the basic design and the starting design.

As is generally well known in the art to which the present invention pertains, "design" is a commonly used term which in the progressive lens field relates generally to the spatial distribution of a lens' optical characteristic (such as astigmatism, power, etc.).

As should also be clear from the disclosure of this application, the "basic design" is created to determine the size and the position of the visual areas (distance, near and progressive area), the maximal allowable astigmatism, the gradients of the astigmatism and refractive error, the distortions, and other parameters of a progressive spectacle lens, based on theoretical considerations. Thus, for example, a "hard design", characterized by large, substantially astigmatism-free visual areas, high values of the maximal astigmatism and large

gradients of surface astigmatism; a "soft design", characterized by visual areas, which are not astigmatism-free, lower values of maximal astigmatism and lower gradients of surface astigmatism; or a "balanced" design may be chosen for the surface of a progressive lens. In the present invention, the basic design is created for a given lens power and default values for individual parameters based on theoretical data or theoretical specifications. This basic design is then modified in a design loop based on the results of wearing trials by volunteers (i.e., wearing test subjects).

In order to carry out the testing and design adjusting process more efficiently, the present application first extends (or multiplies) the basic design to cover a range of powers of the lens, thereby creating a set of starting designs for wearing tests. In other words, while the basic design is created for a given (for example, weak) lens power, the starting designs for wearing tests usually cover a central range of lens powers. That is, the starting design for wearing tests comprise at least one series of progressive lenses for myopia, one series of progressive lenses for emmetropia and one series of progressive lenses for hyperopia.

As the above amendments should now make very clear, wearing tests relate to the actual tests of individual progressive lenses, which have been calculated based on or from the starting designs, with the individual parameters of each of the testing person taken into account. Wearing test subjects relate to

the volunteers that participate in the wearing tests and test the individual progressive lenses.

Likewise, "individual parameters" refer to the individual and variable parameters of the spectacle lens wearer and the wearing condition such as, for example, the corneal vertex distance, the interpupillary distance, the frame lens angle, etc. Based on the results of the wearing tests, each of the starting designs is adjusted or modified. When the test phase is completed, the final starting designs for production purposes (i.e. designs which would not undergo further wearing tests) are determined based on the adjusted starting designs by, for example, extending the adjusted starting designs, so as to cover a greater range of powers than the starting designs.

Therefore, Applicants believe that the amended claims set forth the metes and bounds of their invention with sufficient particularity and distinctness so as to enable one skilled in this art to understand and use that invention.

The rejection of Claim 3 having been determined to be statutory but also as being obvious over Kitani et al in view of Yamakaji et al under 35 U.S.C. § 103(a) is also respectfully traversed. Reconsideration is sought in light of the following comments.

The Office Action acknowledges that the Kitani et al design process does not adjust starting designs based on wearing tests. But it also does not, in fact, create starting designs based from the basic design, calculate individual

progressive lenses for wearing tests from the starting designs, and create final starting designs for production from the adjusted starting designs.

The Office Action references col. 13, lines 13-17 and lines 56-59 as well as col. 16, line 42 of the Kitani et al patent as providing support for those above-mentioned steps, but Applicants must challenge the assertion given that col. 13, lines 13-17 relates to the calculation of individual progressive lens by optimization based on design-related data but not to creating a basic design and then creating starting designs for the wearing tests from the basic design. Likewise, col. 13, lines 56-59 appear to relate to nothing other than selecting a predetermined progressive refractive surface form based on design factor elements and their weighting.

The Kitani et al design process does not go beyond the conventional approach using wearing tests in which a basic design has to be tested in a wearing tests. A number of individually optimized progressive lenses for the volunteers participating in the wearing test are computed based on the basic design. This step has been done semi-manually by an experienced engineer but is time-consuming and understandably error-prone. Based on the test result, the basic design was adjusted and a large number (usually about or more than 72) of starting designs for the production was determined. An individual progressive lens for a specific customer is calculated on the basis of the nearest starting design from the 72 or more starting designs.

Applicant made the surprising discovery that the stability and the speed of the entire process could be improved by providing an additional step of creating/calculating starting designs for wearing tests. That is, each of the starting designs for wearing tests is calculated for default values of individual parameters of the spectacle lens wearer and the wearing position. The individual progressive lenses for the wearing tests are calculated based on the starting designs for wearing tests taking into account the individual parameters of the wearing test subjects, rather than directly based on the basic design as in the above-described conventional approach.

According to the present invention, the basic design is first extended to cover a range of powers of the lens and thereby create a set of starting designs for the wearing tests. Only after this occurs, the individual progressive lenses for the test wearers are calculated based on the starting designs, while taking into account the individual data of each of the test wearers for which an individual progressive lens adapted for a specific lens wearer (i.e. for a specific test wearer) is shown in detail in Fig. 5 and the related description, paragraphs [0036]-[0067] of U.S. Publication 2007/0132945 A1. The individual data of the test wearers may deviate from the default values for the individual parameters for which the respective starting design for wearing tests has been calculated. Ideally, the individual data of the test wearers should be to a great extent within the range, for which the final individual progressive lenses are offered by the manufacturer.

Based on the results of the wearing tests, each of the starting designs for wearing tests is adjusted or modified. When the test phase is completed, the final starting designs for production purposes (i.e. designs which would not undergo further wearing tests) are determined based on the adjusted starting designs for the wearing tests, so as to cover a greater range of powers than the range of powers covered by the starting designs for wearing tests. Thus, the starting designs for the production will have more options than the starting designs for wearing tests. In other words, the number of the starting designs for the production will be greater than the number of the starting designs for wearing tests.

The Yamakaji et al manufacturing method, specifically the adjustment referred to in col. 5, lines 51-58, relates only to an adjustment of a VC value (the distance from a reference point of the back surfaces of the lens to the vertex of the wearer's cornea at spectacle wearing time. This has nothing whatsoever to do with the claimed adjusting step of starting designs as defined in amended Claim 3.

Even if, purely for argument's sake, the teachings of Kitani et al and Yamakaji et al would have been combinable with or without impermissible hindsight, the resultant method would not be the one claimed in this application. A *prima facie* case of obviousness is not present in this record.

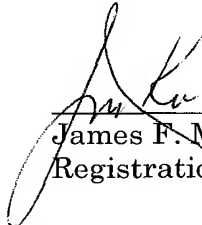
Accordingly, early and favorable action is now earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket # 100341.56596US).

Respectfully submitted,

April 20, 2010



James F. McKeown
Registration No. 25,406

CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844
JFM/cee